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ABSTRACT

"Occasional Papers" deal with varied aspects of librarianship and consist of papers that generally are too long or too detailed for publication in a periodical, or are of specialized or contemporary interest. This latest volume in the series is a detailed look at the causes of and cures for the two fundamental types of misinformation found in bibliographic and authority records in library catalogs: that arising from linguistic errors, and that caused by errors in subject analysis, including missing or wrong subject headings. Bibliographic and authority records with such misinformation enter shared databases in several ways; all are originally the work of human agents. The author, a cataloger at the University of Chicago's Joseph Regenstein Library, makes the case for getting it right the first time through strict self-review and cooperation among catalogers. Not simply an indictment of current cataloging practices, this paper raises awareness of how the mistakes happen in the first place and suggests specific preventions, making it required reading for beginning and experienced catalogers alike. (Contains 33 references.) (Author/AEF)

THE CREATION AND PERSISTENCE OF MISINFORMATION IN SHARED LIBRARY CATALOGS: LANGUAGE AND SUBJECT KNOWLEDGE IN A TECHNOLOGICAL ERA

By

David Bade

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TECHNOLOGICAL ERA

By
David Bade

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THE CREATION AND PERSISTENCE OF MISINFORMATION IN SHARED LIBRARY CATALOGS

LANGUAGE AND SUBJECT KNOWLEDGE
IN A TECHNOLOGICAL ERA

ABSTRACT

Misinformation science is an evolving discipline arising from the productive and eliminative activities of *Homo bibliotecario inadaequatio* using efficient and powerful information technologies in the library ecology of a market economy. The forms of misinformation inhabiting large data reservoirs are briefly described, and the natural history and epidemiology of two important parasitic species (*Incompetentus linguisticus* and *Subjectus incorrectus*) outlined. A variation of Malthus' law is proposed to account for the dynamic population growth of all species of the genus *Oopsus*—i.e., the growth of misinformation will be directly proportionate to the incompetence of the misinformation providers. The author rejects the use of both metadata pesticides and the genetic engineering of librarians and proposes, instead, stricter environmental management and rigorous natural selection to deal with these persistent miscreations.

INTRODUCTION

Perhaps the earliest recorded instance of misinformation is in a narrative about a garden party conversation concerning epistemology and the consequences of a little knowledge. The human agents had been informed by one authority that to partake of the fruits of knowledge would certainly mean death. Yet, in the tree of knowledge itself, there was another authority who contradicted the first and insisted that, far from dying, the pursuit of knowledge would make the knower an authority equal to any. This misinformation was distributed globally, the ensuing experiment caused the system to crash, everyone blamed someone else for importing corrupt files, the Chief Executive Officer fired everyone including a third of the angelic hosts, and to this day humans are dropping like flies after a lifetime of ignorance.

Misinformation, as the common origin of evil and ignorance, prompts two opposite responses: the authoritarian and the democratic. Most institutions in the western world (churches, governments, universities, corporations and, of course, libraries) have experimented with both over the years. The authoritarian responses have been to exclude everyone except the infallible ones (e.g., those with a master's degree in library science), drown everyone but the righteous, and outsource any work that causes headaches. The democratic model has expanded over the years to include most anyone willing to pay membership fees and usage charges, sign loyalty oaths, and put up with incompetence. It is unlikely that the kinds of misinformation that librarians produce and distribute will entail such dire consequences as the above case. It is still often useful to investigate the librarian as misinformation provider and to consider how best to respond to this evil phenomenon, misinformation.

PURPOSE AND PLAN

The main concern here is with two fundamental types of misinformation found in bibliographic and authority records in library catalogs: that arising from linguistic errors, and that caused by errors in subject analysis, including missing or wrong subject headings. Bibliographical and authority records with such misinformation enter shared databases in several ways; all are originally the work of human agents. This article does not address misinformation in databases due to the malfunctioning of software or mechanical procedures beyond the reach of the cataloger, nor does it address issues related to the many other kinds of shared databases, though many of them increasingly find their way into library catalogs in their Web versions. The discussion should still be relevant to a wide range of issues in the expanding universe of shared information.

A discussion of other kinds of errors will help to show why they present problems unlike those errors associated with language and subject knowledge. These errors, briefly treated, are typographical, International Standard Book Description (ISBD), MARC, and those in applying and interpreting rules, notably the Anglo-American Cataloging Rules (AACR). At the end, I include a personal response to a critical situation, namely, the vanishing intellectual in the academic library.

VARIETIES OF MISINFORMATION

The four broad categories of errors discussed here each have a considerable literature devoted to them, but since these do not represent the main focus of the paper, they are not discussed.

Typographical Errors

Typographical errors are troublesome, for a single error can render a document virtually irretrievable, but these are easy to correct. The inadequacy can best be addressed by better typing and proofreading skills. If typographical errors are not eliminated while the item is still in the cataloger's hands, it will be noticed only by chance in the future. The chances for correcting misspellings—as opposed to typing the MARC tags incorrectly—are small enough when the language is common; such an error in a language that few librarians and library staff can read will neither be noticed nor corrected.

General Description: Basis, Order of Elements, and Punctuation

The general description of books as well as materials in other formats is based on the International Standard Book Description (ISBD) and is outlined in Part One of AACR. These conventional rules for the basis of the description, the order of elements, and punctuation serve to standardize the presentation of the bibliographical information, originally on a catalog card but now usually in electronic form. With cards, the user could expect to find the author at the top of the card, the co-author(s) at the bottom after Roman numerals, and so on for all the bibliographical details. The information given on the card was encoded in this prescribed order and punctuation, enabling the librarian to determine author, title, edition, series, and all other elements of the description based solely on the appearance on the card: knowledge of the language or script written on the card was not necessary for comprehending the purpose and significance of each block of text or numbers. In a MARC-coded electronic catalog, all of this information is explicitly coded in the various fields and subfields (fixed fields 020, 100; subfields 'a,' 'b,' 'c,' and so on). Many library systems now identify each element of the record in the display; order and punctuation retain their value as conventions facilitating easy use through familiarity, as well as for those users who do not know or have no access to a MARC display. Like cataloging rules, these rules for order and punctuation have varied during the course of the last century, have often been applied incorrectly, and many users of databases other than catalogers ignore them anyway. These conventions no longer bear as large a load of information as they formerly did; the choice of the basis for description remains, but punctuation is essential in only a limited number of instances—e.g., in those cases where an exact match is necessary to link a bibliographic heading to its proper authority record. Punctuation, in most cases, affects neither searching nor comprehension of the description. If ISBD punctuation really mattered, the coexistence of recon records, old cataloging copy, and plain old errors would have combined to make large shared databases unusable. But that is not the case, and users and librarians can almost always correctly interpret

the records they find, no matter what form of punctuation they display. And as long as there are some general standards and the order of elements remains roughly the same, ISBD errors will never be a barrier to bibliographic comprehension.

MARC

Mistakes in the MARC coding of bibliographic and authority records, whether as typographical mistakes or improper coding, is a greater problem since they can seriously disrupt a user's ability to find and interpret bibliographic information. Corporate names tagged as personal names do not work. Subfields 'b' and 'c' determine the domain of title searches. Example: *Trianon, a magyar békeküldöttség tevékenysége 1920-ban : válogatás a magyar béketárgyalások . . .* [Trianon, the work of the Hungarian peace delegation of 1920: anthology of etc.]. This book may be searched in the Online Computer Library Center (OCLC) database with a derived title search such as: tri,a,ma,b. If the title has the subfield 'b' placed after "1920-ban," this search will succeed. If the subfield 'b' is placed after the word "Trianon," the same search will not succeed, for the derived title search is limited to the main subfield 'a.' It would be necessary to do the search as: tri,, and qualify the search by date of publication, since the OCLC system will not display the number of records retrieved under this search without a qualifier. A scan title search will retrieve either variation in the same fashion. If after "Trianon" one were to wrongly enter a subfield 'c,' all words of the title after "Trianon" would be unavailable in any title search. In this example, placement of the subfield 'b' is a judgment call, and the difficulties for the user can be overcome by adding an additional title tracing for the option not chosen. A subfield 'c' would not be a matter of judgment but a simple error. These errors are preventable by rather simple means. Many a ten-year-old should be able to sit down and learn MARC coding in a short time and so could any librarian. MARC format should be learned (like ISBD and AACR) as a matter of every librarian's initial library education.

Misinterpreting and Misapplying Cataloging Rules

Interpreting and applying cataloging rules (e.g., AACR2, LCSH manual) presents greater problems. Correct use calls for thought and judgment, especially for catalogers who are inexperienced and who deal with all formats, subjects, or types of material in a profusion that makes it hard for them to recall examples and acquire the instincts of the specialist. Unlike the preceding kinds of errors, the improper application of cataloging rules can lead to the creation of forms of entries that the users will neither find nor search for, as well as improper tracing or non-tracing of important items in the record and the failure to associate one work with another (e.g., adapta-

tions and translations). Whereas the earlier kinds of misinformation can often be identified and corrected with only the bibliographic record in view, errors in the application of cataloging rules often require looking at the item in order to determine what should be in the record and in what form. Typographical errors and ISBD and MARC errors can usually be corrected quickly by the cataloger, a supervisor, a database administrator for the shared utility, or any other cataloger who looks at the record and notices the problem. Errors in cataloging rule applications are not always easy to spot and, even when evident, fixing them usually requires looking at the item. No mechanical fixes here.

Prevention and Correction of these Errors

All of these errors have in common the possibility of being corrected by anyone who is looking at the title page (in the case of typographical errors), or who knows the standards and conventions of bibliographical description (ISBD, MARC, AACR). Any librarian can spot the errors and report them to the appropriate person. These errors are prevented primarily through a knowledge of cataloging rules and MARC coding, which should be thoroughly learned as part of a general library education. The cataloging experience itself should continually inform the practitioner as to their interpretation, modifications, and clarifications. All these kinds of errors belong to those specific activities for which librarians are trained and responsible. Catalogers should be on guard against these kinds of errors, and misinformation arising from such mistakes should be minimal. They can and should be identified and corrected by any librarian who encounters them in the database. Of course, most librarians do not have time to worry about the millions of typographical, ISBD, MARC, and AACR errors. These records are usually handled by copy-catalogers anyway, staff who may or may not be able to identify the errors, and who may or may not be allowed to make such corrections—should they want to in the first place. Catalogers usually fix only those that matter to them and leave the rest for database managers or for those who have no more pressing concerns.

A Note on Retrospective Conversion

Retrospective projects differ from day-to-day cataloging in that their staff has often been deliberately instructed not to think but merely to transcribe what they see. This, of course, permits the institution to hire otherwise less qualified persons and pay them less than folks who are expected to think. The reasons given are sound: the library has already cataloged the item; all that is needed is to take the information found on a card and key it into a database in MARC format. There is no need to alter elements to fit current rules, no authority work, no checking for obsolete headings. The result is to

dump many thousands of records, errors and all, into a database for all to share. Often the authority form of name/title will differ from all entries in the database except the one on which the authority record was based. Such discrepancies may not be seen as errors, but they do result in misinformation insofar as the authorized form is the anomaly in the bibliographic file. Users must keep this in mind if they are not to be misinformed. Objecting to retrospective conversion is unwarranted, since all libraries and shared utilities benefit greatly. When retrospective conversion is cost-effective, it often carries a high price in misinformation.

LINGUISTIC ERRORS AND WHY THEY MATTER

Most catalogers today contend with unusual items (books, periodicals, videos, computer files, maps, scores) that they have been asked to catalog but which they cannot read. Often they are even unable to determine the language in which the item is written. Library schools do not teach languages. Since most libraries collect at least some materials in languages other than English, the typical monolingual American will face a dilemma: catalog them the best one can (e.g., Georgian books, vols. 1-44); learn 5 (10, 40,...)¹ languages; hire more catalogers, staff, or students and make them responsible; outsource what cannot be read; lock these items in a back room and forget about them. Many well-meaning librarians do attempt to catalog materials for which they are inadequately equipped linguistically. It is praiseworthy that some librarians have a dedication to access that leads them to provide some kind of record even though they are well aware of the probabilities of errors in both description and subject analysis. My objective here is not to decry the efforts of catalogers (like me) who boldly catalog what they cannot read. Rather it is to point out the disastrous effects on the library community of ill-equipped librarians, working in libraries with little linguistic depth in their catalog departments, providing bibliographical and authority records for other libraries to use.

Varieties of Linguistic Errors

What kinds of errors appear in databases when catalogers lack linguistic skills? I have seen incorrect transliteration; improper identification of the language; names established in other than nominative singular; table of contents treated as title pages; series authority established for dedication statements or other non-series-like statements (e.g., "Workers of the world unite!"); "Book 3" treated as part of title proper and cataloged separately from "Book 1," "Book 2," instead of cataloging all volumes as a multivolume set or each individually with "Book 3" in subfield "n"; real words treated as articles and vice versa; author entered in 245, title in 100; and improper

class number and subject assignment due to inability to read the text. Some of these errors do little harm as they add useless information to the database (e.g., "Workers of the world unite!" entered into the database as a note, a traced series, or other title). Useless misinformation in the form of notes can be tolerated, or in the form of tracings deleted by knowledgeable catalogers and ignored by users. Are all linguistic errors this insignificant?

Extent of the Problem

Even trivial mistakes like those just mentioned can take on a more troubling character if the misidentified phrase is duly entered into the authority file as a uniform title, traced series, corporate name, or other heading. Such authority records are in fact made, and the ill-informed cataloger of Hausa may waste an enormous amount of time tracing "Abin da ke ciki" [Table of contents] in a 440 if she or he should have discovered it was actually an established series.²

Such trivial, useless, annoying, and—to the uninitiated—misleading information is usually entered into bibliographic and authority files solely because of linguistic ignorance (but see section "Intellectual Errors" below). A more complex problem involves diacritics, special characters, and transliteration. Such errors do not affect access when the special characters and diacritics are ignored in indexing and searching, but they do create havoc when imported into local systems that link the bibliographic records to the authority records. Thus, a *miagkii znak* or an acute accent in Russian, a cedilla or left hook in Romanian, ligatures or no ligatures accompanying the Ukrainian 'zh,' has caused few problems in the past because, in many systems like OCLC, authority records were not linked to bibliographical records. That is changing and will only get worse. A much more serious problem will arise when the Romanized records are mechanically converted to display in the vernacular script. A small number of Arabic records that I provided on worksheets for a library some years ago were input by that library with all the diacritics following the associated letter rather than preceding it.³ Those readers who know Arabic, or any language with a significant number of diacritics, try to imagine what such records will look like when they are displayed in vernacular scripts: I do not see how any computer could make sense of such garbage. The patron is likely to see little more than a string of hex set symbols interspersed with seemingly random letters. Conversion will present tremendous problems on any account because of the changes in transliteration schemes in use over the years.

Word division (e.g., Thai), vowelizing (e.g., in languages using scripts derived from Arabic), and ambiguous letters (e.g., Amharic) often lead even

knowledgeable catalogers to disagree. Even where standard reference sources are agreed upon as establishing the authorized form, productive processes within the language still cause trouble, as do new words, dialect words, and borrowings. Ambiguities and other problems inherent in the languages and scripts themselves can lead not so much to errors as to difficulties for users at any level: several different headings may need to be searched if transliterated forms are not to be overlooked. Even though some will argue that there is only one correct transliteration, catalogers who know the language well, even native speakers, will often disagree due to optional, archaic, or dialectal variants, one of which must be supplied but which is not specified in the writing itself. When they are brought into the authority file, transliteration differences are often partially resolved but also partially exacerbated. Subsequent catalogers may not notice authorized forms established in older Romanization schemes or with different vowelling or word divisions.

Another kind of misinformation in shared databases that arises out of linguistic incompetence is the malformation of names, titles, and series that results when the morphology or syntax of the language is misunderstood. A recent example I encountered was for a book in Polish where the surname was recorded in the plural as it appeared in the statement of responsibility. The cataloger simply traced the plural form and compounded the error by establishing an authority record.

In records in the "lesser known languages" written with a Latin-based alphabet, there are often instances of a number, part, section, or even separate work treated as subtitles rather than subfields 'n' or 'p' or, in the case of a separate work, being adequately traced. Authors and titles may appear as the 245 and 100 respectively, and tables of contents, dedication pages, or even advertisements may be used as the chief source of information on which the description is based. Related to these gross errors are the much more common errors in the major European languages where articles are treated as significant (filing and searchable) words and vice versa (Nielsen and Pyle give an excellent discussion and a heretical suggestion for dealing with this problem¹). Catalogers are often too quick to rely on layout, typography, or other *common* publishing formats. It is the common format of title at top then author that is the primary reason some books with author at top followed by title get these two mixed up—the format itself, not any statement of the publisher to assign the elements of the record—when they are catalogued without knowing the linguistic facts.

When languages are so poorly understood that such mistakes are made, one can expect errors in subject analysis and classification as well. Unfamiliar-

ilarity with the language of the text is a frequent, but by no means the sole, factor in errors of subject analysis and classification. Misanalyzed titles coded as full level cataloging are common, and other errors in the record indicate a linguistic inadequacy.

This discussion has focused on the different kinds of linguistic misinformation. What about extent—i.e., the numbers or percentages of records? Do these errors represent a half dozen bad records stumbled upon during the course of one librarian's nearly 20-year career? I know of no studies examining errors directly attributed to linguistic incompetence, nor any articles that directly address language competence as a factor in database quality other than Nielsen and Pyle. A few studies have looked at the availability and quality of copy in major utilities for Slavic,⁵ East Asian,⁶ and Latin American imprints,⁷ but the main problem they note is simply that copy was *not* found for most items in their samples.

Linguistic misinformation exists and is growing as cataloging positions are eliminated. The main problem is simple: *If the data we share are provided by persons who can neither read the language of the item nor understand its subject, then the growth of misinformation will be directly proportionate to the incompetence of the misinformation providers.* A corollary is that catalogers with no linguistic and subject skills will not see the problems, since discovering that something is wrong usually takes the same skills needed to describe an item correctly.⁸

Causes of the Problem

Linguistic misinformation may be directly traced to individual catalogers, but it results from more than simply ignorant librarians. Both libraries and the shared utilities are also responsible, thanks to policies that contribute to the problem of poor cataloging and linguistic misinformation. They affect the cataloger's ability to do accurate work and have a drastic negative effect on both the library and the common database. Even now, some large libraries input bibliographical records into the OCLC database without diacritics. Catalogers in major research libraries are often reassigned responsibilities in ways that minimize their language and subject skills and experience, and they are forbidden from working with materials that previously had been their primary responsibility.

Library hiring policies also adversely affect database quality when they result in unqualified catalogers. Positions for cataloging in foreign languages (be they uncommon, like Indonesian, or common, like Russian, German, and Latin, especially when several languages are involved) often go unfilled

for lack of qualified candidates (where are the catalogers who have linguistic expertise? Are there none graduating from library schools? The circle of responsibility expands ever outward). Are positions not being filled? Are language and subject requirements being dropped or replaced with other qualifications when the positions are advertised? Are catalogers with one or two languages hired and then called on to catalog other things? Is LC maintaining a linguistically competent cataloging staff? Are there too many people like me who claim we can do everything when in fact we cannot? The lack of linguistic capabilities among catalogers is the primary source for linguistic misinformation in our databases.

Prevention and Cure

Catalogers and library policy have been criticized without mentioning the actual linguistic situation which libraries and librarians face. How many languages are there? How many characters does a keyboard handle? How many Romanization tables have been approved by the library community? How many catalogers are necessary to catalog an East European, South Asian, or Africana collection? How many catalogers apply for jobs requiring Russian and then find they have to catalog everything published east of Germany and Italy, up to Chinese Turkestan and Alaska? The person responsible for Romanian, Hungarian, Kazakh, Estonian, Hausa, Balinese, and Vietnamese often does not know these languages but relies on what can be learned from dictionaries, transliteration tables, and other reference sources.

This situation can be prevented, of course, by hiring catalogers who either know or take it upon themselves to learn all the languages for which they are responsible. Hopes and expectations are occasionally raised with agreements for cataloging cooperation, but most such ventures have brought disappointing results.⁹ Rather than cooperating through cataloging according to institutional abilities, libraries appear to stop cataloging, hire no one, and wait for another institution to provide copy—which every other institution does, and eventually the copy is input as a minimal level record for acquisition purposes at some library, and all others download that record because something is better than nothing and that is the last anyone ever sees of that book.

This is the situation today: too few catalogers in the country to do a greatly increasing load of publications in an increasing number of languages. The cataloger for Classics retires and the Germanic cataloger also becomes the Classics cataloger and next year may add Romance languages to his or her responsibilities. This situation is common and serious. As long as this situation exists, there are a few things that can be done and a few things that should not be done.

What can be done:

- learn some languages. Given the way things are, part of any cataloger's professional development and continuing education should be a continual broadening of language (and subject) capabilities;
- wait for *good* copy (and learn how to distinguish it, and study a language while waiting);
- utilize students and other library and institutional personnel;
- subcontract or outsource to persons or organizations that have a reputation for providing the linguistic skills;
- cooperate with other institutions, like the agreement between the University of Minnesota (Scandinavian materials) and the University of Washington (Arabic).¹⁰ Such agreements seem to work better than large-scale agreements among groups of libraries, perhaps because the books end up on the desk of one person, who is held responsible and who usually knows what is right and cares about accuracy.

What *not* to do:

- input records coded to suggest the cataloger knows what she or he is doing when he or she does not;
- routinely make authority records without knowing how the language works or what the crucial statements really mean; and
- add subjects and class numbers to the shared record without justification.

INTELLECTUAL ERRORS: CLASSIFICATION/SUBJECTS

As in the case of linguistic misinformation, class number and the choice of subject headings (though not form) depend on knowledge of things that are assumed in library school (and, of course, usually the faculty and the students both know that too often the assumption is incorrect and that there is little they can do about it). The rare cataloger whose position is limited to cataloging materials only in his/her specialty (e.g., Latin American law or Greek and Latin classics) is enviable. Most catalogers need to work in many languages, many formats, and in every subject anyone ever thought of. The specialist can keep up with a particular field; the general cataloger will more than likely not even try to keep up with anything other than personal passions that may never enter into his or her work.

In shared databases with bibliographical information contributed by thousands of catalogers, the cumulative effects of linguistic and subject misinformation presents a greater problem than all the typos, MARC, ISBD, and AACR errors combined. The reason for this is that the former kinds of

misinformation can be eliminated only by one who both notices the error and can correct it. Compounding the problem is the absence in most shared databases of any mechanism for sharing the corrected records with other databases that have reproduced the misinformation.¹¹

Linguistic ignorance and errors are a primary source, but not the only source, of intellectual misinformation. Two principal sources of misinformation may be distinguished—those that result from linguistic disability and those that result from a weak general education or a lack of specialist knowledge—but the results are identical: incorrect subjects and classification.

Extent of the Problem

There are many discussions of cataloging as a subjective practice, of how no two people can be expected to assign the same subject heading to the same books. The point of such articles is usually to say that we spend too much time on something that does not merit it, and that we should give up sooner and not try to find a heading that truly fits. Could one who held such a position ever have tried to compile a bibliography or write a seminar paper? Wrong subjects waste a reader's time; lack of the right subject can prevent readers from finding what they want. Subject headings that are too broad leave the record lost in the large number of items retrieved. How often a search calls up the response "Too many matches. Please qualify your search." General headings are often the only answer, and often the system cannot handle these. For many kinds of material (e.g., periodicals, congresses, and general textbooks), only a general heading will adequately cover the contents. But the general rule is to describe the item as precisely and narrowly as possible.

Methodological Considerations for Evaluating Subject Analysis

Before introducing the examples in the next section, I will first propose a rule outlining the necessary conditions for any studies evaluating subject analysis:

For all evaluation of subject analysis, including classification, the items must be evaluated with the item in hand, and the evaluator must have an adequate knowledge of: (1) standards (LCSH, Dewey Decimal System, etc.); (2) language(s) of the text; and (3) subject of the text.¹²

The examples below were selected according to this rule from among the many that pass through my hands each day. No corpus of random items was selected with each item judged and the percentage of mistakes in each category tabulated and analyzed: this is the method underlying all of the studies that I have read and, although this is never stated, other comments

suggest that in these studies the evaluations were based on the catalog record alone. The only common methodological grounds between the studies mentioned below and the selection of materials discussed in the following section are the authors' knowledge of professional conventions and standards. For readers who are aware that each of these records was cataloged by a cataloger who is probably adding 100 or more records into a national database each month, a statistical count is as unnecessary as it is irrelevant: no counting is necessary to see such an obvious problem. Science and scholarship should not be limited to quantification; it is the quality that is under scrutiny, and such evaluation is done, like cataloging itself, one item at a time.

Seven Examples

Of the following seven examples from the OCLC database, the first five were all cataloged between the years 1996 and 2000, all were input as "I level" records, and all from the same part of the world—Eastern Europe (materials for which I am responsible). These examples should make it clear how wrong subject headings can misinform the reader. The final two examples are not given in full since they were taken from memory—they were my own errors, and I no longer remember the details, only my shame upon discovering them. Discussion will follow in the next section.

*Example 1. Manuscrisele de la Cîmpulung: reflectii despre tărănime i burghezie / Constantin Noica.*¹³ [The manuscripts from Cîmpulung: Reflections on the peasantry and the bourgeoisie]. The descriptive portion of the record is flawless, the classification number and subject given for local history of Cîmpulung, Romania. Constantin Noica was a Romanian philosopher who spent many years under house arrest in Cîmpulung. This volume contains several previously unpublished essays on Werner Sombart's *Der Bourgeois*, Georg Simmel's *Philosophie des Geldes*, and other works by Dilthey and Tönnies, all written during his confinement in Cîmpulung.

Example 2. În genul lui Cioran, Noica, Eliade / N. Steinhardt. Two records for this book may be found in OCLC: 1) The cataloger provided no subjects, but included the note "Parodies of Cioran, Noica, Eliade, and others". Classification for Steinhardt as literary author, PC839.S; 2) Subjects given: a) Philosophy, Romanian—History—20th century; b) Cioran, E.M.; c) Noica, Constantin; d) Eliade, Mircea; e) Romania—Intellectual life—20th century. Classification is B 4822, 20th century Romanian philosophy.

Example 3. Psychological ideas and society: Charles University, 1348-1998 / Josef Brozek, Jiří Hoskovec. Cataloged as a book by Brozek and Hoskovec. The subjects given: 1) Charles University—History—Sources; 2) Philosophers—Czechoslovakia—History. The book was classed in LF under Charles

University. The correct story: the book, as edited by Brožek and Hoskovec, is in fact an anthology of writings in several languages, translated into English on the topic of psychology, by politicians, doctors, sociologists, psychologists, and others, all of them one time or another associated with Charles University. Two pages in the introduction deal with the history of the university, nothing else on the topics given in the record, no reason at all to class in LF. A title keyword search could bring up the book for someone—if the system could handle terms like “psychological,” “ideas,” “society,” and the patron had a lot of time to waste. Even if they found the record, would they bother looking at it seeing it *really* had nothing to do with psychology but rather was about Charles University history?

Example 4. Title transliterated: *Vidimost nezrimogo: IV Peterburgskaia biennale = The visibility of the unseen: IV St. Peterburg biennale*. The romanization and tracings in the record are impeccable. Subject given: Philosophy—Congresses. Class B20. The actual theme of the conference was aesthetics and cyberspace, virtual reality, and the arts. Since the real topic was neither in the title nor in the conference name nor in the subject headings, who will ever find this book? Only those who look for it by exact title—that is, those who already know that the book exists and is of interest to them.

Example 5. Title transliterated: *Gosudarstvennyi teatr imeni Vs. Meierkhol'da (GOSTIN)-(1926-1938 g.g.): "Teatr RSFSR-I" (1920-1922 g.g.). "Teatr aktera" (1922 g.g.), "Teatr Gitis" (1922-1923 g.g.), "Teatr im. Vs Meierkhol'da" (TIM)-(1923-1926 g.g.)*. The book was cataloged as an open multivolume microfilm reprint of something published in Moscow by Tsentr. gosud. arkhiv SSSR, 19—. The subjects given were: 1) Theater—Soviet Union—20th century—Archives; 2) Meierkhold, V.E. (Vsevolod Emilevich), 1874-1940—Archives—Statistics [this was coded as a topical subject—not name—with no subfields ‘q’ or ‘d’, with Archives and Statistics both subfield ‘x’s]; 3) Theater—Soviet Union—20th century—Statistics. The actual title of the set is: *The Meyerhold Theatre, 1920-1938 from the holdings of Russian State Archive of Literature and Art, Moscow, Russia* / microfilmed in 1999 by Research Publications. This 165 microfilm reel set is the first publication of the archives of the Gosudarstvennyi teatr imeni Meierkholda, whose name with subfield ‘v’ Archives should have been the first subject. Subjects two and three are wrong: this is not a collection of statistics about the archives, anyone, or anything else.

And, finally, to make it clear the author is not sitting on a throne, two whopping mistakes made by the author himself and caught later:

Example 6. Collection of praise poems in Yoruba. Ignorant of both Yoruba culture and language, I relied on a dictionary for the meaning of “oriki”

and, instead of realizing that the book was a collection of praise poems and treating it accordingly, I assigned classification and subject for Names, Yoruba. A linguistic error that led to a grievous error of subject analysis and, hence, classification.

Example 7. History of Maluku. I thought Maluku was Indonesian for Malacca and did not bother looking it up. (Or did I think Malacca was Portuguese for Maluku? I do not remember.) A lack of geographical knowledge that was at the same time a linguistic error. The bigger problem is: how many more had I cataloged before I discovered my mistake? How does one correct mistakes one does not know one has made?

Discussion of the Examples

These examples show how wrong subject headings mislead and direct the reader away from investigating the book further. These and many other cases are not examples of subjective differences or reasonable divergences of cataloger's interpretation. They are wrong. "Stop the massacre" is completely different from and opposed to "Slow down the massacre." In all of these examples, the error was probably due to the cataloger not bothering to open the book past the title page. Might this suggest haste to fulfill a quota or carelessness? The table of contents and the first page of each book made it clear what the subjects really should be. Might the cataloger really not have known who Simmel, Dilthey, Tönnies, and Sombart were, that they were more than good old boys working in local history? These examples did not reflect on specialized knowledge so much as on negligence or lack of basic education. If one assumes that the catalogers had done graduate work, at the very least toward an MLS, negligence seems likelier.

In Example 1, a knowledge of intellectual life in post World War II Romania would have introduced the cataloger to Noica even if the details of his residence were not known. To produce the subject given, the cataloger had to assume a good deal from the title and *look no further for justification*. And if the cataloger did not even know the language, the book should have been set aside to wait for some other cataloger to do.

We shall let the reader evaluate Example 2: The first question to be answered is: Which record accurately reflects the contents of the work? For the readers who have difficulty choosing between these two analyses, we must further ask: What information is necessary in order to make the choice? Will a knowledge of Romanian suffice? "In the style, or manner, of Cioran etc." the title states. There is a difference between parody and philosophy, and that difference should be reflected in the library catalog. Is the first record one of the many cases where a book, not being understood, is declared to be

literature (parody in this case) and thus sent on its way? Or did the cataloger for the second record see the names Cioran, Noica, and Eliade and assume the work to contain studies of the essayist, the philosopher, and the historian of religion respectively? Does "in the style of" here mean the same thing as "imitation" or "parody"? There is still another possibility; perhaps each cataloger registered only one aspect of the book's contents. Might it not be a discussion of the ideas presented by these writers, written in the same style as that in which they each wrote, or even a true parody that was seriously concerned with their style as much as with their ideas, as one might write a Platonic dialogue about Plato's Dialogues? I hope any reader who has not already read this particular book would want to open it up and read a bit before choosing between these two records.

Yet Example 2 yields more matters of interest: one of these records was provided by the Library of Congress. Most libraries have a general policy of preferring full LC records to any others when these are available. Would that be the correct choice here—i.e., is the LC record correct? And if it errs in subject analysis, may we close our eyes and accept the authority of LC anyway? There are really only two options for the cataloger: (1) for the cataloger who does not know Romanian, choosing the LC record acknowledges the authority that the Library of Congress has and the fact that most catalogers rely on the knowledgeable catalogers there to provide the expertise that few other libraries support; (2) the second option is available only to the cataloger who knows Romanian or has access to someone who both knows Romanian and understands what the issue is in deciding between these records: that person can take the book and read it until the light dawns—there is no other way to analyze this book properly.

The cataloger who provided Example 3 has not even a language barrier as an excuse. Librarians must ask the question: are we in so much of a hurry to move our books and other items onto the shelves that we will settle for such hack work? Is this the work of a professional cataloger? If so, just what does "professional" mean?

The fourth example presents the problem of general versus specific headings. As in the previous example, the book was in English (and Russian), so language should not be the problem. In order to find a specific heading and class number that would both match the contents and not be so general as to be worthless, it was necessary in this case to browse the table of contents. This simple step does take a few minutes, but the nature of the contents in this case was easily identifiable and, while it needed more than one subject heading, the book clearly belonged in BH under aesthetics, rather than in B, general philosophy.

Example 5 is particularly distressing because the only correct lines in the entire record were for the Physical Description Fixed Field (007). This record was done wrong primarily because the cataloger determined that the chief source of information was not the leading frame but the first item microfilmed: the 1938 catalog of the archives published by the Tsentr. gosud. arkhiv SSSR. Hence, the publisher in Moscow rather than in Woodbridge, Connecticut. Furthermore, the nature of this first item in the collection was mistakenly identified as a volume of statistics rather than a catalog. The MARC coding was wrong in all of the subject fields, the latter two subjects being completely wrong in the first place: the archives pertain to the theater that happened to be named after Meierkhol'd, but the archives were not his nor do they pertain in any way to him.

On checking the catalog of the library that provided the record, it became clear that someone had corrected a few of the mistakes, so some errors were noted and corrections made at the home institution, even if these corrections were not made in the record on OCLC. What is more, as is often the case when bibliographical records are reviewed by someone not doing the original cataloging, the errors were only those that could be spotted from the catalog record itself—i.e., the name subject for Meierkhol'd was changed from a 650 into a 600 with the appropriate subfields added and the "x"s of the subfields changed to "v"s. The one essential subject is still missing from the record, and the two wrong subjects—the name and the statistics—remain. The title, imprint, and reproduction note are still based on the analysis of the entire set as a reprint, which analysis was also based on the wrong source.

Such errors as are noted above enter the database through the original record but often remain there even when the record shows several, even dozens, of holding institutions. It is often the case that such gross errors in both description and subject analysis go undetected, while the records are enhanced by changes in the capitalization or punctuation in a note, or the addition of unnecessary notes—such as "'Nauchnoe izdanie'—Colophon" or "In cyrillic." In such instances, the phrase "cataloger's judgment" comes off looking mostly like an excuse for inadequate intellectual analysis of contents, and the kinds of additions and corrections that are made represent an obsession with trivia.

When Two Heads are Better Than One: Complex Problems, Specialized Knowledge, and Interdepartmental Cooperation

So far, problems arising from basic inattention and general educational deficiencies have been discussed. These problems may loom large, but

some problems are even more disconcerting. General catalogers may need to deal with Aztec literature with established titles for particular texts that are incorrect. Often the errors are repeated with no inkling of the problem. Catalogers working with German and Scandinavian titles may be confronted with a commentary in Swedish on a section of the Burmese version of the Tripitaka. While the second (Burmese) situation is hypothetical, the Aztec (Nahuatl) example is not: I stumbled upon it myself and, being no Nahuatl scholar, I could not determine the correct form nor would I attempt to. The matter was referred to the Library of Congress, whose catalogers could and did correct the matter. Most experienced catalogers, however, in dealing with subjects and forms of headings for works in law, Buddhist writings, Islamic subjects, medicine, Russian music, finance, and many others, have needed help from personal or written resources. Some areas—medicine, law, and music—often have specialists in these fields in the library, but who gets the book, the subject or the language cataloger and, both of them being busy, how can they be persuaded to take the time to talk to each other?

Virtually all of the literature on cataloging and on database quality is concerned with technologies or methods and standards. Acknowledgment that cataloging is an intellectual activity that requires an ability to understand what an item is about, and prior to that, an ability to read the specific language of the text, is so rare as to be disturbing. However librarians may have thought in the past, in the present climate of technological possibilities and the excitement they generate, librarians increasingly see themselves as information scientists, and their work as information handling, brokering, and management. What must not be forgotten is that information always has a specific content. Catalogers, bibliographers, and reference librarians in fact work not with abstract information devoid of content, but with *autopoiesis*, prosopography, logotherapy, *Rechtsextremismus*, *amparo*, *Ujamaa*, *sultawiyya*, *Babad Buleleng*, *Yuan chao pi shih*, *arianism*, Brownian motion, *Empfindungslosigkeit*, chocolate chip cookies, and anti-semitism. Information science knows nothing of these matters, in any language. A few articles touch directly upon this theme, however, and these are discussed next.

A Brief Survey of the Literature

Intner's study of bibliographic quality has a flaw that invalidates its basic point. She states that: "Substantive errors in subject headings and classification numbers were confined to obvious discrepancies between the content of the books and assignments of subject headings and class numbers" as well as absent and outdated headings, and those cases where heading and classification were contradictory.¹¹ This is a good example of the extraordinary inexactitude and carelessness with which catalogers often approach

subject analysis, combined with the most exhaustive attention to details of description in the record, details that are utterly insignificant to everyone except some librarians. Most of the examples cited in her study do not merit the attention of a copy-cataloger, as she appears to argue in a later paper.¹⁵ The obvious examples to which she confines her attention are just that—obvious. My concern here is with all the misinformation that Ms. Intner ignores.

LeBlanc notes that: "In many large academic libraries, one can find veteran copy catalogers with vast subject and/or language backgrounds . . . but who, because they do not brandish an M.L.S., are excluded from doing original work." He continues with a description of the recent library school graduate who, "seeing and foreseeing the 'big picture' with regard to cataloging," actually does the original cataloging but, LeBlanc suggests, this "big picture" is no substitute for "the more fundamental factors of language and subject background."¹⁶

Ewbank, reporting on a talk by Intner, comments that: "One of the most important parts of subject analysis is determining the subject content of an item and this can't be taught."¹⁷ She later notes that, in learning subject analysis, one problem that students have (in a list of four problems) is lack of subject expertise. In another article, Intner sets up the impossible goal of the "perfect catalog," one that requires catalogers with language and subject expertise. Having asserted that this is economically impossible, she then asks: "Who cares if the perfect catalog is doomed?" Her response: "Not I."¹⁸

Two recent studies have looked at the question of subject appropriateness. Both come to distressing conclusions. Svenonius and McGarry note that, of the non-LC monographic records in their study, over 50% had inappropriate, obsolete, or missing headings. They note that: "Subject catalogers should be obligated to understand the meaning of subject headings"¹⁹ and, later on, "Subject catalogers need to be educated in the subject terminology of the discipline in which they are cataloging."²⁰ Mann, on the other hand, has looked at a series of publications claiming that it does not matter whether the cataloger knows anything, for no two catalogers will agree on the subject anyway. He does not agree.²¹ His criticisms of a recent study by Chan²² could be generalized to most of the literature on subject errors: "According to actual LC policies, a heading that is properly assigned must meet two criteria, not one: (1) it must appear in LCSH, and (2) it must also be at the most specific level appropriate to the book in hand rather than at a general level. Chan simply overlooks the second criterion."²³ The fact that a heading is in LCSH does not mean it is appropriate to the item in hand; for it to be appropriate, it must reflect exactly the subject of the work.

Subject Cataloging as an Intellectual Activity—Not Anymore?

It may be objected that the inattention to language and subject knowledge as a prerequisite to cataloging has been due to their being seen as prerequisites. The evidence suggests that this is not the case. Many studies of subject errors and indexer inconsistency (like those discussed in Mann's study) fail to ask "What subject is the work about?" and then concluding that the process is subjective, so catalogers shouldn't even bother. Hong Xu, studying job advertisements, found that, between 1986 and 1990, only 14% of advertised positions for catalogers asked for any kind of subject background.²¹ (She did not give figures for language requirements. Towsey's study of 1995-1996 advertisements in the United States found that "44% of the advertised posts specified language knowledge as necessary or desirable."²²) In comments on Hafter's *Academic Librarians and Cataloging Networks: Visibility, Quality Control and Professional Status*,²³ Barnett notes: "The catalogers Hafter spoke with come across as having lost the sense of cataloging as a demanding intellectual activity."²⁴ Many librarians simply do not see cataloging as an intellectual activity requiring an educated mind. The most telling evidence of this is the assignment of original cataloging to nonprofessionals without regard for their abilities and qualifications to do cataloging. (Many nonprofessionals can clearly do original cataloging. Removing the necessary qualifications from the position description, thus lowering the position rank and abandoning the principle of "Equal work, equal pay," that is distressing.) Trainer went so far as to say that: "More and more libraries are discovering that they can no longer afford to have professional catalogers be mostly catalogers. . . . cataloging is being turned into an activity for nonprofessionals" so that professional catalogers can become cataloging managers who supervise and train rather than catalog.²⁵

The implications are clear: what once was an activity seen as professional and requiring expertise, not only in cataloging methods and technologies but also in language and subject, is now seen by many as too unimportant to allow professionals to engage in it and so is now considered nonprofessional by definition. Administrators who take this attitude soon realize that part-time high school students can make the same mistakes working for minimum wage. Once the job is assumed to require no prior knowledge, not even library school, finding catalogers becomes mostly a matter of finding the cheapest typing pool.

Interlude: Why Bother?

The question was raised above: Since librarians lack the intellectual capabilities for working with the many languages and subjects with which they

are confronted, why bother with subject analysis at all? Why not rely on keyword searches, as some have suggested? The answer should be clear to anyone who has ever tried keyword searches in Chinese or Burmese, in inflected and agglutinating languages, or in languages with special characters and diacritics to distinguish words that searching mechanisms usually see as identical. But consider the scholars who use several languages: should they search all possibilities in English, then again in German, and again in French and Chinese or any number of other languages? One major advantage of a single controlled vocabulary is that it brings together all materials of a particular topic, regardless of language.²⁹

It is often assumed that keyword title searches can replace subjects so why bother with them? The following two kinds of materials are examples where subjects, not title, matter most: (1) language of text is irrelevant, and (2) text is multilingual. First case: you want the *Moonlight Sonata*, no matter what they call it. For the *Moonlight Sonata*, the problem is solved by uniform titles. But if you want Picasso's *Guernica*, any book in any language about Picasso will probably have it, as well as a catalog of the gallery in which it resides, books on war in art, etc., but there will be no uniform title nor subject for *Guernica* unless the whole book is about the one painting. The subjects will have to be those in which one would expect to find *Guernica*. Subjects can get at all these materials regardless of the language of the text because the reader only wants the picture—who cares what language the book is in? Second case: symposium on topic *x* in Russia has Russian title but contributions in English. Monolingual readers looking for articles on *x* will retrieve this volume on a subject search and see contents in English, Russian, and French. No title search with an English keyword will find it.

There are also items whose author and exact title you cannot remember, but you know what they are about. Readers may be looking for a particular object, wherever they can find it. Proper subject headings may not lead directly to the object, but they can gather together books, computer files, films, and other media in many languages that may contain pictures of the object: catalogs of galleries in which the object is found, monographs on the artist/photographer/place, even subject headings like "Animals in art." In the second case, many periodicals, edited collections, *Festschriften*, conference proceedings, collected works, and collections of documents have materials in several languages while the title is in only one language.

In a 1991 study, Larson concludes that: "Title keyword searching, which provides a limited form of natural-language access to the topics of books, was found to be the primary replacement for subject index use."³⁰ These are still subject searches. They simply replace searches in the subject index.

which did not lead to the desired materials for many possible reasons including poor analysis by catalogers. Title keyword searches can be alternatives but with similar and not wholly satisfactory results. Larson begins with a summary of the results of an earlier study by Matthews, Lawrence, and Ferguson, which found that subject searches accounted for as much as 59% of the searching in online catalogs, and that "enhancements to subject and topical searching were the most desired addition to the capabilities of existing online catalogs."¹¹ Knutson conducted an experiment adding subjects and contents to social science essay collections and found a significant increase in circulation as a result.¹² Taylor's 1995 article reproduces a number of arguments for maintaining subject headings as additional access points beyond keyword searches, quoting Dubois' statement that "they both display advantages and weaknesses dependent on a fairly wide range of context."¹³

Subject headings, properly formed and assigned, are clearly very useful to readers, perhaps especially to students and novices in any field (as we all are, outside our own specialties). Our main concern should then be to ask: Are we making correct and, hence, useful headings, or are we proudly and nonchalantly burdening our users with mistaken and misleading misinformation?

Causes of Misinformation Regarding Intellectual Content

Inattention and carelessness must be bluntly condemned. It still helps to remember that haste can lead to both inattention and carelessness, and that haste is often imposed from on high. The story is told of a cataloger who managed to complete only five bibliographical records in a month, being either uniquely unqualified or burdened with too many other responsibilities. Pressure to increase quantity clearly may be an urgent concern of the administration, and it may well be that the elimination of many cataloging positions has been a direct result of the administration determining that the quality of bibliographical information supplied by catalogers simply did not justify an investment in slowpokes. Will people work faster if they know less, or should not specialists work faster because they have the knowledge they need? Is the general retreat from specialists within libraries due to the dubious notion that the added value previously provided by the specialist can now be replaced by simply relying on shared cataloging? Can someone else really pay for specialists so we can all benefit? Does anyone do this now? Will they in the future? If libraries cannot afford specialists, how likely are commercial vendors to seek and retain the well qualified? Catalogers are needed who work quickly and accurately, not catalogers who have to agonize endlessly over matters they do not understand—and in the end often get it wrong anyway.

Inattention and carelessness, whatever the causes, can be dismissed as simply unacceptable evils. Ignorance remains and, among the unforgivable sins, it is no less frequent a problem, for it is the original sin with which all librarians are burdened. Ignorance is in fact uniquely incarnate in each of us—we are all ignorant in all but a few languages, more or less ignorant in all subjects, even when we are exceptionally learned in some specific field. Ignorance may be fought with learning, yet everyone will be ignorant of most everything for their whole life. How can an ignorant librarian become a competent cataloger?

Fitting a cataloger's specific skills and background to a particular collection is a matter of position descriptions, changing collection practices, the need for flexibility, and the amount of materials in need of cataloging. In the past, most research libraries divided the universe of knowledge into attempts at manageable parts: catalogers were assigned a group of languages and a broader or narrower portion of the subject division (e.g., law, music, humanities, or natural science). Sometimes the subject was more specialized, but the languages were fewer; for other positions, the languages were greater in number, but the kinds of materials and their subject matter were more restricted. Africana collections, for example, often acquired materials in many languages, but most of the material consisted of elementary works on language, literature, folklore, religion, history, health, and readings for adult education. They did not require a specialist's knowledge in medicine, literary theory, or nuclear physics.

Times have changed. Today there are fewer cataloger positions, and most of those that remain are in special libraries (e.g., law, music, map, and medical libraries). Outside the special libraries, most positions are now either general positions for catalogers who do everything, or positions determined by linguistic knowledge, such as Romance, East Asian languages, and Slavic languages. Catalogers in these positions are responsible for every kind of material received in these languages. Having too few catalogers responsible for too broad a range of subjects is the same problem as having too few catalogers for too many languages: the cataloger is forced into incompetence, and misinformation is the result. But there are no others with enough knowledge to spot the errors, so we accept our raises, promotions, and tenure, and gradually transform ourselves into misinformation providers.

The initial vision was for a shared database, built from the cooperative labors of thousands of competent well-educated intellectuals and librarians with impressive special abilities and subject expertise among them. It is still a great idea. But the number of librarians with the needed languages and subjects has diminished sharply as libraries have chosen to save money by

relying on cheap cataloging. What will happen when the cooperating institutions say "Let us all share one database (or two, or three)," then each library promptly proceeds to eliminate most all of those who could have produced this reliable and accurate database?

Whatever the causes, the existence of such records as the seven examples above indicates that something is rotten in the state of cataloging, and it is irrational, irresponsible, dishonest, and unscientific to refuse to acknowledge this problem in the first person plural: the problem is us. Not one person can work quickly and accurately with the whole world of published scholarship. It is rare that any one cataloger can adequately work with a "narrow" area of responsibility like "Humanities in Romance languages." But let us return to the seven examples above: librarians can do better than that.

Prevention and Cure

Without realistic proposals for achieving a more acceptable state of affairs, a critic is neither useful nor welcome. Hence, these comments for both individual catalogers and library policy makers:

- Libraries need to reexamine the number of catalogers and their responsibilities in relation to the amount of cataloging necessary to prevent the growth of backlogs. Existing and future positions should realistically reflect the needs of the collection in terms of subjects, languages, and quantity of materials to be cataloged.
- A position with responsibilities too general and too broad will be of little interest to the people who can bring a high level of skills and abilities to an institution.
- In a research library, librarians without a commitment to scholarship and continuing self-education are a liability.
- Catalogers should seek/be encouraged to supplement their educational deficiencies through attending classes (auditing at one's own institution is usually free).
- Many catalogers work closely with bibliographers and faculty, and all of them should be if for no other reason than using their specialist knowledge as a resource. That faculty, bibliographers, and other librarians with subject and language expertise might assist the cataloger in improving the quality of the database and providing access to more specialized materials should not be discounted or rejected on "territorial" grounds.
- Use the many Internet special interest and discussion groups. Questions asked through such forums are often answered by the less than knowledgeable, but the knowledgeable responses will also help with insights that may never be located in published reference works.

ON RESPONSIBILITY

The roles of catalogers and library administrators in the natural history of misinformation have been addressed above; a brief summary and a few additional comments on these perpetrators follows, after which a brief look at the role and responsibilities of database administrators.

Education of Catalogers

The order in which the topic of responsibility for misinformation (or, positively speaking, the quality of information in a database) is presented here may seem a bit backwards. Catalogers enter the picture to do the work only after systems have been designed and purchased, cooperative agreements signed, and position descriptions and duties outlined. What the cataloger puts into the database is what matters. The first and final responsibility for the quality of the bibliographical information and the shared authority files belongs to the cataloger. Thorough, conscientious, and intelligent catalogers may be born and not made. But their education before, during, and after library school is primarily a matter of the cataloger's own decisions. The cataloger with an inadequate academic background as well as the cataloger with a highly specialized background are both in very difficult positions if they are hired as general catalogers, particularly if they are responsible for a range of languages they do not know or know only inadequately. The great advantage of specialized cataloging responsibilities is the possibility of systematic and sustained self-education directed at the requirements of the job, even as that changes over time. For positions with general responsibilities, systematic self-education is far more difficult since the retirement age is generally 65 and the universe of knowledge is rather extensive. However, there are practices that inexperienced general catalogers can undertake, and responsible catalogers are rarely happy doing nothing.

Perhaps the simplest and best way for catalogers to improve their understanding of the meanings, scope, and construction of subject headings is by studying LC copy. Some librarians may feel that copy-cataloging is a waste of a professional's time, but familiarity with current LC practice on a regular heading-by-heading basis is still the best way to keep abreast of changes and usage.

Other means of self-education have been noted above: taking classes, learning languages, and working with other faculty and librarians with areas of expertise. For technical knowledge of AACR, MARC, authority work, and the structure of LCSH headings, there are national seminars, training sessions offered by LC, and local discussions from which to benefit.

Library Administration

Catalogers are ultimately responsible for the keystrokes destined for cyberspace, and the library administration is responsible for finding and hiring the catalogers for the responsibilities they shoulder and for the resources they use. The quantity and quality of people working to build a database depends on the attitudes of the administration toward the work they do. If cataloging is seen as an intellectual added value, the prospects for a quality database are good. If it is something to be acquired from the lowest bidder, quality may be cut as often as the budget. The library and the college or university to whose budget the library is inescapably tied must work with limited human and financial resources. College and university officials in charge of purse strings will know that corners in library staffing can no more be cut than classroom teaching can. Incompetent or overworked teachers cannot teach well no matter how much they are or are not paid. Physicists are not hired to teach history, or Russian literature, or psychoanalysis. The same applies to catalogers as for bibliographers in such libraries as still have them. Perhaps naively, one hopes that both the university and the library administration set scholarly standards and educational goals first and then decide what to do with available funds. Economic, rather than scholarly and educational matters, however, often explicitly constitute the "bottom line."

Library administration is responsible not only for the number and quality of professional catalogers but, just as important, the procedure for working with shared bibliographical records. In many libraries, any item for which a record is found in a shared utility is not given to a professional cataloger to do but is routed to a copy-cataloger or even labeled and sent directly to the shelves with no evaluation. The decision to accept cataloging provided by an outside source is justified by the same sound reasons as were outlined above in the note on retrospective conversion. The same problems occur here, with the additional problem of internationally and vendor supplied records. If copy catalogers are hired with the abilities to evaluate and correct if necessary the insufficiencies and errors of these imported records and are expected to produce a good record according to local standards, cataloging will proceed more quickly as a result, and the library will benefit from the knowledge of many librarians, while not suffering from the inadequacies. The disaster of our time is that this work is being done more and more by people who can neither evaluate nor correct imported errors and often are forbidden from even thinking about it. If copy-cataloging is to be pursued mindlessly—and I object here that nothing should be pursued mindlessly—then it will result in a usable database only if the records received from these external sources are perfect. If catalog records from these external sources have any inadequacies

or errors, the library will be paying for, and living with, a growing body of misinformation.

Database Administrators

Shared databases are, in the most basic sense, computers owned and maintained by corporate bodies: groups of shareholders or members. Decisions on inputting records into the database, the kinds of records the database will accept, entry practices, and price structures for use are all the prerogative of the database owners and managers. Librarians in academic libraries should therefore urge upon them the need for quality. Records already in the database are a difficult matter, since the quality issues of most concern require language and subject expertise for their correction as well as the item in hand.

Institutions and vendors outside the Anglo-American world have recently begun to use OCLC. The result has been a massive influx of records that do not adhere to the standards and headings used in the AACR/LCSH world. These bibliographical records require even more editing than a locally input acquisitions record and wreak havoc with authority control when imported into local systems. International contributions to OCLC, like other databases, are important breakthroughs for those who seek materials published abroad but are not available locally, but this broader use creates new problems. These must be solved individually by member institutions; might it not make more sense for the database administrators to separate these records and revise them before making them generally available? Once again, libraries are all sharing both good and bad records; most institutions most of the time are apparently treating the good and the bad equally, downloading and editing locally, if at all. "See no evil, fix no evil" applies to much of the copy-cataloging done in academic libraries. As a result, bad records persist and are being edited locally by each institution according to "whatever" standards: *the exact opposite of how shared databases should function.*

Other kinds of problems range from the bad records of habitual offenders to tapeloads from libraries that do not accept certain national standards, to recon records that are often rife with errors and invalid headings. By accepting without review these various kinds of records, the quality of the shared database is undermined.

In certain cases and for certain purposes, these incomplete and even incorrect records suffice. For example, when a patron has a complete and correct citation, any librarian should be able to find the item if it exists if even one searchable field is correct (and the searcher does not stop at the first negative result). The vendor Harrassowitz uses a different system of transliteration

for Cyrillic that affects both titles and names. But if the acquisitions librarian searches by ISBN, the record is both there and recognizable, though incomplete and, by local standards, improperly transliterated. But if this record is downloaded into a local database without changing the searchable fields to conform to local practice, few users will search by ISBN and, consequently, the others will fail to find the item.

More often it is the case that the patron has an incomplete or incorrect citation, or a citation appearing in transliteration in some other language, and this is where the problem looms large. Yet even with an incomplete or incorrect citation, if the catalog record has some correct fields, and at least one of these matches the citation, the item can be located by the persistent searcher. With that acknowledgment, it still remains the case that even with correct fields, a vendor or other record without subject fields will be inadequate for the patron who asks for "that book about Einstein reviewed in last month's *Atlantic Monthly*." It is clear that a subject search could be quick and easy; otherwise finding the item will entail searching a periodical index or, for something so recent, a look into the item in which the citation was taken. The minimal level records without subjects that have been allowed into OCLC for many years are a well-known problem, and we need not elaborate on this here.

It is the ideal of the catalog record to provide a description that can be accessed equally easily by a number of different searches. The more errors and the fewer access points included, the less useful the record can be. For bibliographical information in a shared database to be efficiently used, that information should be qualitatively acceptable without further review. Neither of the major shared cataloging utilities (OCLC, RLIN) can be used in this fashion. Yet many libraries in practice have adopted cataloging procedures as if records from these databases can be accepted as they are.

CONCLUSIONS AND RECOMMENDATIONS

The results . . . are now painfully visible: every error, every defect, is now repeated—often instantaneously—on a worldwide scale. The more universal this technology becomes, the fewer the alternatives that will be available, and the less possibility to restore autonomy to any of the components of the system. (Lewis Mumford, 1970)

For three decades, librarians have lived with promises of what a shared online catalog could be; now most institutions proceed as though the promised state of affairs exists. It does not. Unqualified catalogers, decisions by database administrators, and library policies have all combined to bring about a situation—in spite of programs like PCC—where the quantity of records requir-

ing review is growing rapidly while the quality of the personnel to perform this task and the performance of the task itself is rapidly diminishing.

In my youth, there was a common saying about those incredible new machines, computers: Garbage in, garbage out. Librarians have forgotten this. Library systems with astonishing capabilities are being used with great inefficiency because the data necessary for the more powerful and refined searches were never entered into the database. Because we acknowledge that humans are imperfect and often disagree, we have abandoned any insistence upon exactness and appropriateness as well as fullness of description. The fact that the author of this critique makes mistakes—and the reader can find more than a few, as I have entered perhaps more than 20,000 records into OCLC and RLIN—is no reason to dismiss the problem. On the contrary, if I am doing a poor job of cataloging, that is further alarming proof of the magnitude of the problem.

Although incompetence of catalogers is a large concern of mine—and I shall speak bitterly and from the heart about that in my closing complaint—to err is human, and mistakes, misunderstanding, ignorance, and carelessness are all found in every profession. The crucial issue for librarianship is whether we continue to think that this is no problem, that computers will do their magic, thinking for us, self-correcting and correcting our errors as well, ignoring the true logical nature of computers: Garbage in, garbage out; or, on the contrary, we face the problem in its increasing magnitude, its perpetuation and institutionalization in our hiring policies. To put the matter simply: Is librarianship a matter of intelligence or artificial intelligence? If it is the latter, I want out.

I have three suggestions for catalogers and a bone to pick. The suggestions often seen in the library literature bear repeating since they have been disparaged so often in the era of "cheaper, faster, and maybe not quite so good." These are:

- *Right the first time.* In a shared database, it is crucial for the data entered to be correct from the start. Wrong information supplied to any shared database takes on a life of its own and is reproduced and distributed worldwide. Misinformation in a database from corrupt sources requires users to review everything. This is economically unfeasible and rarely happens in practice. The best possible solution is the only possible solution: get it right the first time.
- *Strict self-review.* It makes as little sense to hire someone to review the work of catalogers as it does to review bibliographical records imported from a shared database. Obviously, beginners need to be reviewed. But,

after that, there is no need for adding layers of qualified persons to make sure everyone is doing things right. If there is money for another position, use it to put another cataloger to the task. Catalogers should not expect anyone else to find and correct errors—they should not make them in the first place (a goal, of course, impossible to achieve, but essential).

- *Cooperation.* Catalogers must know when they need help and must not be too shy or too proud to look for it. There are many possibilities now that did not exist in the past. Whether catalogers use existing resources or systematically initiate a group of networks for bringing those with responsibilities and problems beyond their grasp in touch with those with expertise, cooperation is a clear key to the problems catalogers face in a multilingual world inundated with publications.

EPILOGUE: THROWING STONES

The process of automation has produced imprisoned minds that have no capacity for appraising the results of their process, except by the archaic criteria of power and prestige, property, productivity and profit, segregated from any more vital human goals. (Mumford, 1970)

And now, the final complaint of a middle-aged cataloger. Unpleasant as it may be to consider, is not the lack of qualified catalogers directly related to our "professionalism"? Intner's comment (noted earlier) concerning the impossibility of employing catalogers with adequate language and subject abilities is outrageously false. Libraries abound with underemployed underpaid staff who have academic credentials, backgrounds, skills, and abilities that surpass those of many librarians. The qualified people are right here among us but are only allowed to be here if they will work for low wages or as volunteers. Many of these staff would prefer the status and salary accorded to librarians but work in the library without these niceties because they treasure the academic environment and would not want to leave the intellectual possibilities that a university provides. Librarians prefer to continue performing their tasks at the height of their incompetence while prohibiting the multilingual doctorate without a library degree from rising above a salary half that of the professionally inept. A professional spends three hours a week in library school for two semesters studying cataloging, 90 hours total. Linguistically challenged, with no experience, a meagre academic background, maybe even no real commitment to scholarship—and *bingo!* she or he is a tenure track Professional Cataloger. I began cataloging in 1982 as a temporary "consultant" (low pay, no benefits, no security), hired because of my linguistic skills and previous nonprofessional library experience. My training consisted of forty hours a week for three months studying under the principal cataloger, practicing with AACR2 and copy

found on OCLC: a 500 hour cataloging practicum. Then I set to work. A good cataloger is not necessarily made in library school; the skills a cataloger needs are primarily intellectual skills and attitudes and broad academic background that are acquired only through a commitment to learning.

While the intellectual activity of cataloging is often given to staff to do, it is only because this activity is devalued by librarians and the administration. Instead of encouraging staff to increase their skills and responsibilities to meet a higher level position—an apprenticeship that could lead to professional competence and remuneration—the position itself is downgraded, and the staff member remains exactly where he or she previously was, the only difference being that the work is now more interesting. (This is a huge bonus that the qualified and academically inclined staff will eagerly accept. Unfortunately, with increasing frequency this “bonus” is forced upon staff who are neither linguistically nor academically equipped to do the work properly and who do not enjoy it.) But generally, in accordance with the devaluing of these positions, university staff policies and librarians’ desire for status combine with union activity to ensure that thought, initiative, and responsibility for all nonprofessional staff are strictly regulated. Universities in general, and libraries in particular, prefer to create positions that demand routine and thoughtlessness in staff while proudly proclaiming the virtues and values of knowledge and learning. Universities design positions to require a minimum of intelligence so those employed can be paid less, however well-educated the applicants are. In addition, established positions that require thinking beings are eliminated whenever possible. It is a blatant lie to sing the praises of knowledge, then deliberately structure work responsibilities to eliminate the exercise of intelligence and judgment in as many positions as possible. We create at the same time a gulf between the rich and the poor, and a gulf between those who can exercise intelligence and judgment and those who are forbidden to do so. We set the stage for our comedy of errors by dividing our work according to status rather than fitting skills and abilities to the work that needs to be done.

Which will it be? Shared databases manipulated by obedient but ignorant worker ants where quality means correct punctuation or a community of junior and senior scholars combining knowledge and skills to create a database with accuracy and erudition on a level with the Oxford English Dictionary. My stance should be clear: I want a library staff devoted to the general life of scholarship and learning, where everyone is responsible to that “bottom line.” If we cannot create such working conditions and work in such an environment, according to the same high standards as other academic disciplines, then bring on the high school students: *we* should be abolished.

NOTES

- ¹ The number of languages suggested may shock some readers but, by "learn," I mean acquiring a reading knowledge sufficient to work competently even if slowly. A sound knowledge of the writing system, basic grammar, and critical function words suffices to work competently for the purposes of cataloging. Description does not require reading, understanding, and critically engaging the text. It is usually the practice that catalogers are hired to work with language groups (Romance, Germanic, Slavic, etc.). Anyone who works with groups of related languages knows that the initial investment made studying one language pays off in the ease with which one can acquire a reading knowledge of the other related languages. If one has a prior knowledge of Russian, it is much easier to attain a working knowledge of all the Baltic and Slavic languages than it is to acquire a similar ability with Armenian, Hungarian, and Romanian. I take it to be a professional responsibility that if one is hired to catalog in certain languages and language groups, these languages will be studied and learned in a manner adequate to the library's specific needs. Obviously, if libraries establish positions for catalogers, who will be responsible for "European languages," or worse, "Eurasian languages." They are asking too much, at least if they get materials in many of these languages.
- ² At the time of this writing in spring 1998. Checked in January 2001, the authority record has been deleted, but the 490/830 tracing remains in the bibliographical record.
- ³ I am happy to say that the presiding librarian in this case caught the errors and quickly fixed them.
- ⁴ Nielsen, Ralph, & Pyle, Jan M. (1995). Lost articles: Filing problems with initial articles in databases. *Library Resources & Technical Services*, 39(July), 291-292.
- ⁵ See Gurevich, Konstantin. (1991). Russian monographic records in the OCLC database: A crisis in shared cataloging. *Library Resources & Technical Services*, 35(October), 459-461.
- ⁶ See Tsao, Jai-hsya. (1994). The quality and timeliness of Chinese and Japanese monographs in the RLIN database. *Library Resources & Technical Services*, 38(January), 60-63.
- ⁷ See Grover, Mark L. (1991). Cooperative cataloging of Latin-American books: The unfulfilled promise. *Library Resources & Technical Services*, 35(October), 406-415 and Sercan, Cecilia S. (1994). Where has all the copy gone? Latin American imprints in the RLIN database. *Library Resources & Technical Services*, 38(January), 56-59.
- ⁸ For those readers who were appalled at the Pig Latin of the abstract, its significance should now be clear. Those who overlooked this detail should recall that Pig Latin, or its modern equivalent, is the heart and soul of pseudo-science, and the only sure way to distinguish between the two species is a sound knowledge of, in this case, Latin.
- ⁹ See Gurevich, "Russian Monographic Records" on cooperation in Slavic cataloging; Sercan, "Where Has All the Copy Gone?" for Latin America; and Leazer, Gregory H., & Rohdy, Margaret. (1995). The bibliographical control of foreign monographs: A review and baseline study. *Library Resources & Technical Services*, 39(January), 29-42, for the general state of the bibliographical control of foreign monographs.
- ¹⁰ See El-Sherbini, Magda. (1992). Cataloging alternatives: An investigation of contract cataloging, cooperative cataloging, and the use of temporary help. *Cataloging & Classification Quarterly*, 15(4), 67-88, for a note on this agreement and Ohio State University's decision to pursue a similar path.
- ¹¹ Several utilities and information services offer such automatic upgrades. Many problems remain, however, not the least being a need to wait until upgrades are available. If the upgrade is a Dewey call number, it is useless for institutions using another classification system. Even if the number is usable, how long should one hold onto a book before giving it a call number (subjects, etc.) and shelving? Paying for unusable enhancements (sometimes even incorrect ones!) makes no sense. Waiting for desired and necessary enhancements is a disservice to users: the enhancements may never appear. As long as libraries must pay for these enhancement services, they will remain uneconomical as well as being too little too late.
- ¹² This rule is a slightly adapted version of the rules for the compilation of bibliographies

- drilled into me many years ago by my thesis adviser Donald Krummel.
- ¹³ The hooked 't' in Romanian has been replaced by the regular 't' for technical reasons.
 - ¹⁴ Intner, Sheila S. (1989). Quality in bibliographic databases: An analysis of member-contributed cataloging in OCLC and RLIN. *Advances in Library Administration and Organization*, 8, 5-6.
 - ¹⁵ Intner, Sheila S. (1990). Copy cataloging and the perfect record mentality. *Technicalities*, 10(July), 12-15.
 - ¹⁶ LeBlanc, James D. (1993). Cataloging in the 1990's: Managing the crisis (mentality). *Library Resources & Technical Services*, 37(October), 430.
 - ¹⁷ Fwbank, Linda C. (1996). Untitled report on the program "Crisis in subject cataloging and retrieval" at the American Library Association Annual Meeting, Chicago, June 22-29, 1995. *Cataloging & Classification Quarterly*, 22(2), 92.
 - ¹⁸ Intner, Copy cataloging, p. 15. Perfect is impossible because humans are imperfect; as a goal toward which we strive it is essential. Shall we do what one librarian did when he said to me, "Only 20% of the subject headings in the catalog are incorrect—and that is an acceptable margin of error"? I do not want a lawyer or a doctor or an accountant who is wrong "only 20% of the time," so why lower standards for librarians?
 - ¹⁹ Svenonius, Elaine, & McGarry, Dorothy. (1993). Objectivity in evaluating subject heading assignment. *Cataloging & Classification Quarterly*, 16(2), 26.
 - ²⁰ Ibid., p. 27.
 - ²¹ Mann, Thomas. (1997). Cataloging must change! and indexer consistency studies: Misreading the evidence at our peril. *Cataloging & Classification Quarterly*, 22(3/4), 3-45.
 - ²² Chan, Lois Mai, & Vizin-Goetz, Diane. (1997). Errors and obsolete elements in assigned Library of Congress Subject Headings: Implications for subject cataloging and subject authority control. *Library Resources & Technical Services*, 41(October), 295-322.
 - ²³ Mann, Cataloging must change! p. 30.
 - ²⁴ Xu, Hong. (1996). The impact of automation on job requirements and qualifications for catalogers and reference librarians in academic libraries. *Library Resources & Technical Services*, 40(January), 19.
 - ²⁵ Towsey, Michael. (1997). Nice work if you can get it? A study of patterns and trends in cataloguing employment in the USA and the UK in the mid-1990's. *Cataloging & Classification Quarterly*, 24(1/2), 70.
 - ²⁶ Halfer, Ruth. (1996). *Academic librarians and cataloging networks: Visibility, quality control and professional status*. Westport, CT: Greenwood.
 - ²⁷ Barnett, Judith B. (1988). Bibliographic networks and the cataloger crisis. *Journal of Academic Librarianship*, 14(2), 99.
 - ²⁸ Trainer, Karin A. (1989). Dollars and sense: Training catalogers. In Sheila S. Intner & Janet Swan Hill (Eds.), *Recruiting, educating, and training cataloging librarians: Solving the problems* (pp. 368-369). New York: Greenwood.
 - ²⁹ For a good discussion of the complementarity of controlled subject terms and free keyword searching, see Taylor, Arlene G. (1995). On the subject of subjects. *Journal of Academic Librarianship*, 21(November), 496.
 - ³⁰ Larson, Ray R. (1991). The decline of subject searching: Long-term trends and patterns of index use in an online catalog. *Journal of the American Society for Information Science*, 42(April), 213.
 - ³¹ Larson, The decline of subject, p. 197. The study cited is Matthews, J. R.; Lawrence, G. S.; & Ferguson, D. K. (1983). *Using online catalogs: A nationwide survey. A report of a study sponsored by the Council on Library Resources*. New York: Neal-Schuman.
 - ³² Knutson, Gunnar. (1991). Subject enhancement: Report on an experiment. *College & Research Libraries*, 52(January), 65-79.
 - ³³ Taylor, "On the subject of subjects." Quotation from Dubois on p. 486.

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